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**QUESTION 1**

What is the correct definition of Cloud Computing

- ☐ A large pool of usable and accessible virtualized resources
- ☒ A network of globally interconnected client computers
- ☐ A service architecture based on thin clients
- ☐ A service offer by a service provider, not limited by a Service Level Agreement (SLA)

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**QUESTION 2**

Which of following is correct for logical clocks?

- ☐ If 3 happens before 1,  $3 \rightarrow 1$ , then  $LT(3)$
- ☐ If 1 happens before 3,  $1 \rightarrow 3$ , then  $LT(3)$
- ☐ If  $LT(3) > 1$
- ☐ If  $LT(1) > 3$

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**QUESTION 3**

Early detection of faults can decrease or avoid system downtime

- ☒ True
- ☐ False

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**QUESTION 4**

What does a Load Balancer do?

- ☐ It helps replicate the data across one or more data systems
- ☒ It helps to spread the traffic across a cluster of services to improve responsiveness and availability of applications, websites and database.
- ☐ It helps with reducing the critical path delay by caching data in the outer part of the cloud

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**QUESTION 5**

The vast majority of relational database are ACID (Atomicity, Consistency, Isolation and Durability) compliant.

- ☒ True
- ☐ False

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**QUESTION 6**

Which of the following is a common type of NoSQL

- ☐ Key-Value stores
- ☐ Document Databases
- ☐ Wide-Column Databases
- ☐ Graph Database
- ☒ All the above

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**QUESTION 7**

If the number of partitions is larger than the number of consumers in Kafka then

- ☒ Consumers will receive messages from multiple partitions
- ☐ Some consumers may be idle because they will have no partitions to read from
- ☐ Each partition will read in order from exactly one partition
- ☐ None of the above

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**QUESTION 8**

What does Partition tolerance mean in the context of the CAP theorem

- ☐ All nodes see the same data at the same time
- ☐ Every request gets a response on success/failure
- ☒ The system continues to work despite message loss or partial failure

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**QUESTION 9**

Is the following correct around schemas: In SQL stores, each records conforms to a fixed schema, meaning a the columns must potentially down time

- ☒ True
- ☐ False

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**QUESTION 10**

The critical path is the set of actions that contribute to the delay observed by an end-user after they requested a reply from the

- ☒ True
- ☐ False

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**QUESTION 11**

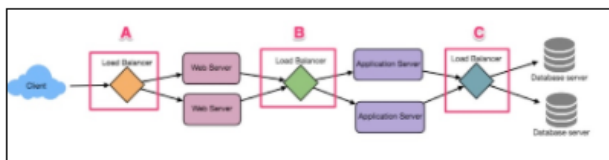
What type of service is OpenStack Cinder?

- ☐ Object Storage
- ☒ Block Storage
- ☐ Compute
- ☐ Serverless
- ☐ None of the above

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**QUESTION 12**

In the picture below we showcase where a Load Balancer can be placed in order to utilize full scalability and redundancy. Which



- ☐ Between the user and the web server;
- ☐ Between web servers and an internal platform layer, like application servers or cache servers;
- ☐ Between internal platform layer and database;
- ☒ All A, B and C LB are needed to balance the load at each layer of the system.

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**QUESTION 13**

How does Cloud computing change the relationship between providers and customer?

- ☒ Increased focus on SLAs
- ☐ Less compliance to standards
- ☐ Less focus on SLAs
- ☐ More focus on training
- ☐ Allowed hackers to steal photos from a Cloud storage provider

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**QUESTION 14**

Which of the following best describes a phantom deadlock?

- ☐ "a is waiting for b" and "b is waiting for c", but in fact, by the time we checked "a", "b" was no longer waiting
- ☐ "a is waiting for b" and "b is waiting for c", but in fact, by the time we checked "a", "c" was no longer waiting
- ☒ "a is waiting for b" and "b is waiting for c", but in fact, by the time we checked "b", "a" was no longer waiting

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**QUESTION 15**

Which service model allows the customer to choose more layers in the computing architecture

- ☒ Infrastructure as a Service (IaaS)
- ☐ Platform as a Service (PaaS)
- ☐ Software as a Service (SaaS)
- ☐ There is no difference between the service models.

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**QUESTION 16**

Which of the following could be a potential problem with data partitioning:

- ☐ Performing joins on database which is running on one server
- ☒ Performing joins on database which is running on multiple servers

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**QUESTION 17**

What can be done to make maximum use of the interoperability principle of Cloud computing?

- ☐ Employ multiple system integrators to build your private cloud
- ☐ Only use cloud providers in the US
- ☐ Use hardware and software from a single vendor
- ☒ Use standard protocols

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**QUESTION 18**

There are many difference schemes one could use to decide how to break up a database into multiple smaller

- ☐ Horizontal partitioning
- ☐ Vertical partitioning
- ☐ Directory based partitioning
- ☒ All the above

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**QUESTION 19**

What is scalability?

- ☒ Scalability is the capability of a system, process, or a network to grow and manage increased demand. Ar
- ☐ Scalability is the probability a system may fail in a given period.
- ☐ Scalability is the amount of time a system remains operational to perform is required function.

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**QUESTION 20**

Which of following is not correct for vector clocks?

- ☐  $[3, 4564] < [4564, 4564]$
- ☐  $[2, 45]$
- ☒  $[1, 4564] < [4564, 1]$

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**QUESTION 21**

What is an important benefit of the Cloud

- ☐ Highly protected data
- ☐ Independency from the Internet
- ☒ Reduced cost
- ☐ ) Small bandwidth

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**QUESTION 22**

The CAP theorem states that in a distributed system you can have

- ☐ Consistency
- ☐ Availability
- ☐ Partition Tolerance
- ☒ Only two of the above
- ☐ All of the above

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**QUESTION 23**

What is not a valid reason for the customer asking a Cloud provider where their servers are located?

- ☐ Geographical location may tell something about network latency
- ☐ Geographical location may tell something about legislation
- ☐ The number of sites tells you something about disaster recovery possibilities
- ☒ When a server breaks down, the customer wants to send a technician to fix the problem as soon as possible

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**QUESTION 24**

Which of the following states the leader in the 2PC protocol can never be in?

- ☐ Doing work
- ☐ inquiry
- ☒ prepared to commit
- ☐ committed/aborted

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**QUESTION 25**

Which of the following Amazon Web Services is equivalent in functionality with OpenStack Swift?

- ☐ EC2
- ☐ EBS
- ☒ S3
- ☐ ELB
- ☐ None of the above

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**QUESTION 26**

What is a benefit of Cloud computing for IT staff?

- ☐ Higher payment for IT involved in cloud computing
- ☐ Less disruption of work by users asking for support
- ☐ Less knowledge needed: Cloud computing does not require specialized skills
- ☒ Less stress levels: less worry about normal daily activities like making back-ups
- ☐ IT staff do not care about the Cloud

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**QUESTION 27**

What are the different types of Cloud Service Models?

- ☐ DBaaS, IaaS, PaaS, KaaS
  - ☐ FaaS, NaaS, LaaS
  - ☒ IaaS, PaaS, SaaS
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**QUESTION 28**

What are the benefits of Load Balancing:

- ☒ User experience faster, uninterrupted services. Users will not have to wait for a single struggling server
- ☐ User experience faster but interrupted services. Users will not have to wait for a single struggling server
- ☐ Users experience higher downtime and lower throughput.

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**QUESTION 29**

How did virtualization help with the proliferation of Cloud Computing

- ☐ A virtual machine is more secure than a physical machine
- ☒ Virtualization made it easier to share resource between users
- ☐ Virtual machines have greater performance than their physical counterparts
- ☐ Virtualization lead to better network utilization

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**QUESTION 30**

Which one of the following is correct:

- ☐ If a system is available then it is reliable
- ☒ If a system is reliable then it is available

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**QUESTION 31**

What is the benefit of storage availability in the Cloud

- ☐ Additional storage does not require budget for new large storage devices
- ☒ Storage in the cloud has a higher availability than storage devices in local area network
- ☐ Storage in the cloud has shorter access time than storage in the local area network
- ☐ Storage in the cloud is easier to protect against intrusion.
- ☐ There is no benefit. Cloud is a crap.

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**QUESTION 32**

Based on the CAP theorem, MongoDB distributed data store system is ?

- ☐ AC
- ☒ CP
- ☐ AP

*Click Save and Submit to save and submit. Click Save All Answers to save all answers.*